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Age at Menarche in Schoolgirls from Tanzania in Light of Socioeconomic and Sociodemographic Conditioning

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A B S T R A C T

*The goal of this study is to determine the age at menarche of girls from Tanzania examined in 2005 considering their families' social and material status. For the purpose of the analysis of the age at menarche, N=71 girls were qualified (N=8 from Dar es Salaam and N=63 from Mafinga) out of N=98 who took part in the anthropological study. The calendar age of the girls who qualified for the determination of the age at menarche ranged from 12.9 to 22.7 years of age (X=15.9 ± 1.9). The age at menarche revealed using the recall method was 14.3 ± 1.1 years. The menarche of the girls included in the study with a parent (mother or father) residing in town was found to be earlier (14.1 and 14.0 respectively). When neither parent completed schooling or had only primary education, the age at the daughter's menarche was on average 15.0 years. The girls whose fathers completed secondary school had their first menstruation at 14.8 years, while the daughters of mothers who finished secondary school – at 14.5. The lowest age at menarche was found in the group of girls whose parents obtained higher education (13.4 years in the case of the father and 13.3 in the case of the mother). A higher age at menarche was typical of the group of girls from families in which the number of children in the household was ≥6 (15.2). In the two-way ANOVA equation, the lowest age at menarche was found in the girls whose families lived in town and had higher education, while the highest – where the family lived in the countryside and did not finish school or had primary school only. In the two-way ANOVA equation (education*self-estimation of the family's material situation), the lowest age at menarche (13.2) was found in the group where the father had higher education and the material situation was assessed as very good or rather good. My own studies are representative for similar African environments. The results obtained allow for comparison with research findings for highly developed countries, yet it is difficult to ascertain unanimously whether the causes for the age at menarche decreasing are the same. It seems that Africa with its environmental conditioning is governed by its own rules.*

Key words: *menarche, Africa, Tanzania, Bantu, family structure, preadolescent*

Introduction

The first menstruation is an important indicator of a girl's physical development. This biological indicator of female maturity remains closely linked to the individual nutrition level[1,2], health condition, family size and birth order in the family home[3], physical activity of the persons studied and the socioeconomic status of the family[4,5]. Other factors at play include genetic[6], geographic[7] and climate conditions[8,9].

The data regarding the occurrence of the first menstruation in developed countries are relatively abundant. The information on this subject from African countries is published far less frequently. In literature regarding the age at menarche in East Africa, it is most often provided in the context of AIDS studies. In such studies, the authors do not analyze the connection between the age at menarche and the socioeconomic and sociodemographic conditions of the girls. It is for this reason that during my anthropological studies in Tanzania, I gathered information on the first menstruation among the girls I studied and data concerning their family situations. There are three goals of this study, wherein I intend to determine:

1 – age at menarche in the girls studied,

2 – differences in the age at menarche in the girls studied on account of their parents' declared education and kind of work; family size and economic status,

3 – compare my own findings with other studies on Tanzania and black girls living in their native environments.

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Subject and Methods

Sample

I gathered information on the age at menarche in girls during my anthropological studies in Tanzania in September 2005. The subjects were secondary school students in the town of Mafinga, Iringa District (81.4%, N=79), located at the altitude of approximately 2300 m above sea level (a.s.l.) Lat (DMS) 7° 15' 0S and Long (DMS) 35° 4' 0E (–7.2500, 35.0667), as well as students of extramural classes at the mission in Dar es Salaam (18.6%, N=18) on the coast of the Indian Ocean, Lat (DMS) 6° 49' 0S and Long (DMS) 39° 16' 0E (–6.8000, 39.2833). The location of Dar es Salaam near the Tropic of Capricorn and the warm Indian Ocean contributes to the city's typically tropical climate, warm and humid throughout the year. In July and August, temperatures drop to 18–19 °C at night. During the day, however, average temperatures range from 29 to 32 °C throughout the year. On average, the annual rainfall totals 1100 mm (43 in). Normally, there are two wet seasons in the year. »The long rains« fall from April through May, while the »short rains« occur from October through November. Geographically, Mafinga lies within the same climate zone. However, the entire region is elevated from 900 to 2400 m a.s.l., which affects the annual average temperatures and rainfall. From June to August, temperatures drop to 14–16 °C at night, while during the day they go up by 8–10 °C. The girls studying in Mafinga came from various Tanzanian towns and regions, sometimes as far as a few hundred kilometres away from the school. They had been staying in the place where the study took place for several to a dozen or so months. During their studies, they were accommodated in the school's dormitory and ate at the school canteen. The girls from Dar es Salaam stayed in their own family homes. In both locations, the study included only those girls who, having been informed about the aim of the study, consented to athropometric measurements of them being taken as well as filled in a questionnaire – in a voluntary and unassisted manner – which included a question on the time of the first menstruation. During the studies, information on the tribal origin was collected. Respondents themselves declared their tribal affiliation, according to the local principles of succession and inheritance (patrilinear, matrilinear). On this basis, their language group affiliation was determined. Respondents reported their background from 14 tribes, out of approximately 130 inhabiting Tanzania[10]. They all belonged to the Bantu language group.

The statistical analysis of the age at menarche included those girls who already menstruated (N=71; N=8 from Dar es Salaam and N=63 from Mafinga). The anthropological study included a total of N=98 girls, but in 17 cases the answer on the emergence of the first menstruation was negative or no answer was provided. The quantitative characteristics of the subjects under survey, their calendar age, and age at menarche sorted by the location of survey are presented in Table 1. The date on which the first menstruation took place was specified by those studied »as remembered«, in many cases with great accuracy, while others only quoted the calendar year. The validity of the data, as long as it did not violate the privacy and intimacy of those studied, was verified by teachers and carers.

Social and anthropometric data

In the course of the survey, the girls were asked: whether their parents were alive (1-yes, 2-no); where their parents lived (1-town, 2-village); what kind of work their parents performed (1-manual worker, 2-intellectual worker); to self-estimate their family's material situation (1-very good, 2-rather good, 3-average, 4-rather bad, 5-very bad). In order to determine the parents' educational background, I used the following categories: 1-none, 2-primary school, 3-secondary school, 4-higher. In the analysis, I combined the first two categories into one. In determining the number of children in the family household, I used six categories: from 1 to 5 and ≥6. Similar categories were used for birth order in the family: from 1 to 3 and ≥4. Some girls did not answer the above questions; in those cases I used the category NA – Not Available. On the other hand, even if a respondent indicated that one of the parents had died, she still provided complete information about the family. 45.1% of the girls did not indicate their father's place of residence, while only in 1.4% of the cases the mother's place of residence was not provided, which may suggest that more often than

TABLE 1
QUANTITATIVE CHARACTERISTICS OF THE GIRLS UNDER STUDY

	Number of girls covered by the study		Number of menstruating girls		Number of girls who have not menstruated yet		NA		Calendar age of the girls included in the study		Calendar age of the girls who menstruated		Age at menarche	
	N	%	N	%	N	%	N	%	X ± SD	Min-max	X ± SD	Min-max	X ± SD	Min-max
Mafinga	79	80.4	63	88.7	15	79.0	1	14.3	15.8 ± 1.8	12.9–22.7	16.2 ± 1.8	13.6–22.7	14.5 ± 1.0	12.0–17.3
Dar es Salaam	18	19.6	8	11.3	4	11.0	6	85.7	13.6 ± 0.9	12.4–16.4	13.7 ± 0.7	12.9–14.6	12.7 ± 0.8	11.0–13.7
All together	97		71		19		7		15.4 ± 1.9	12.4–22.7	15.9 ± 1.9	12.9–22.7	14.3 ± 1.1	11.0–17.3

NA – Not Available

not research subjects remained under the care of their mother rather than that of both parents. This hypothesis is also corroborated by the differences in the places of residence. 33.8% of the girls wrote that their fathers inhabited a town, and 46.5% stated that their mothers were permanently town dwellers. In turn, 22.1% of the girls indicated a village as the father's permanent place of residence, and as many as 52.1% as that of the mother's. Further confirmation for the hypothesis that the girls under survey more often remained in their mother's care than that of both parents comes from the fact that as many as 50.7% of the respondents did not report their father's education, while only 1.4% did not indicate their mother's education. With regard to the kind of work performed by the father, 21.1% of the respondents did not provide any answer, while in the case of mothers' work that percentage amounted to 9.9%, which also illustrates the customary relations in African families.

Statistical analysis

The analysis of the age at menarche in reference to sociodemographic and socioeconomic data was performed on the basis of responses obtained following the analysis of variance (one-way ANOVA and two-way-ANOVA). In the analysis, the age at menarche was a factor dependent on the sociodemographic and socioeconomic data. In order to determine which means are significantly different from one another, I performed Tukey's Test (HSD – Honestly Significant Difference Test) for uneven numbers in groups. In my calculations, I used the STATISTICA computer programme manufactured by StatSoft, Inc.[11].

Results

Sociodemographic and socioeconomic data

The calendar age of the girls studied, with a mean of 15.9 ± 1.9, fell within the range of 12.9–22.7, the average body height (cm) was 154.2 ± 5.0 while the body weight (kg) was 51.7 ± 6.8.

The girls under study indicated that 7.0% of their fathers and 11.3% of their mothers did not have any education or completed primary school, 23.9% of fathers and 70.4% of mothers completed secondary school, while 18.3% of fathers and 16.9% of mothers had higher education. 16.9% of the respondents indicated that their fathers performed manual work, while 38.0% indicated that their mother did. 62.0% of the girls indicated that their father performed intellectual work while 52.1% indicated that their mother did. Satisfaction with their family's material situation (very good or rather good) was reported by 19.7% of those studied. 66.2% of the girls stud-

TABLE 2
AGE AT MENARCHE ACCORDING TO SOME SOCIODEMOGRAPHIC AND SOCIOECONOMIC CONDITIONS (ONE-WAY ANOVA).

	Father					Mother				
Environmental conditions	N	%	X ± SD	Median	S.E.	N	%	X ± SD	Median	S.E.
Are parents alive:										
Yes	62	87.3	14.3 ± 1.2	14.0	0.2	62	87.3	14.4 ± 1.5	14.0	0.2
No	8	11.3	14.4 ± 0.7	14.6	0.3	9	12.7	13.8 ± 0.8	14.0	0.3
NA	1	1.4	14.0	14.0	–	–	–	–	–	–
			F=0.76		p=0.927			F=2.19		p=0.143
Place of residence:										
Town	24	33.8	14.0 ± 1.3	14.0	0.3	33	46.5	14.1 ± 1.2	14.0	0.2
Village	15	21.1	15.0 ± 1.2	15.2	0.3	37	52.1	14.5 ± 1.1	14.3	0.2
NA	32	45.1	14.2 ± 0.8	14.0	0.1	1	1.4	13.0	13.0	–
			F=4.04		p=0.022			F=1.65		p=0.200
Educational status:										
None or primary	5	7.0	15.0 ± 1.3	15.2	0.6	8	11.3	15.0 ± 1.0	15.1	0.4
Secondary school	17	23.9	14.8 ± 1.0	14.9	0.3	50	70.4	14.5 ± 1.0	14.0	0.1
Higher	13	18.3	13.4 ± 1.3	13.0	0.4	12	16.9	13.3 ± 1.2	13.5	0.3
NA	36	50.7	14.3 ± 0.9	14.0	0.2	1	1.4	13.0	13.0	–
			F=5.65		p=0.002			F=6.10		p=0.001
Kind of work:										
Manual worker	12	16.9	14.5 ± 1.2	14.6	0.4	27	38.0	14.9 ± 0.9	15.0	0.2
Intellectual worker	44	62.0	14.2 ± 1.2	14.0	0.2	37	52.1	13.9 ± 1.1	14.0	0.2
NA	15	21.1	14.4 ± 0.8	14.0	0.2	7	9.9	14.3 ± 1.1	14.0	0.4
			F=0.49		p=0.613			F=7.86		p=0.001

S.E. – Standard Error

ied declared their material situation to be average, while 11.3% as rather bad or very bad. Only 2.8% of respondents did not evaluate their family's material situation.

Age at menarche

The age at menarche for the entire study group calculated using the recall method was 14.3 ± 1.1 years and ranged from 11.0 to 17.3 years of age. The findings with regard to the dependence of the age at menarche (one-way ANOVA) to the place of residence, parent education, type of work performed by parents and birth order, number of children in the household and self-estimation of their family's material situation are presented in Tables 2–3. Taking into account the father's or mother's urban residence, the age at menarche in the girls studied in both cases is lower and amounts to 14.0 and 14.1 years respectively. Considering the father's residence (town – village), the difference in the age at menarche in the girls whose fathers reside in a town and those whose fathers live in the country (15.0) is significant, as confirmed by Tukey's (HSD) Test. The age at menarche of the girls studied also differs with regard to parent education. In the group wherein the parents (father or mother) did not finish any school or attended primary school only, the daughters' age at menarche amounted to 15.0 years. In the case of girls whose father finished secondary school, the age at menarche amounted to 14.8 years, while the daughters of mothers who completed secondary school menstruated at 14.5 years of age. The lowest age at menarche was found in the group of girls whose parents (father or mother) obtained higher education (13.4 or 13.3 respectively). In the case of fathers boasting higher education, Tukey's (HSD) test indicates a statistically significant difference between their daughters' age at menarche and that of other groups (categories). There are statistically significant differences in the age at menarche of the girls whose mothers finished secondary school or higher and the group whose mothers did not finish any school or had primary education only, as confirmed by Tukey's (HSD) test. Relatively large differences in the age at menarche can be observed among the girls on account of the type of work performed by their mothers. The age at menarche is lowest in the group whose mothers perform intellectual work (Table 2). The analysis did not discover any statistically significant differences with regard to father's work. Considering the criterion of birth order, the age at menarche successively increases (Table 3). A high menarche age is typical of the girls from families where the number of children in the household is ≥6 (15.3). In the girls who do not have siblings, the age at menarche amounts to 13.8 years. The results of the two-way ANOVA equation (place of residence*education) indicate the lowest age at menarche in the group of girls whose parents inhabit towns and have higher education (13.5 years for fathers and 13.4 years for mothers). The highest age at menarche is found in the group where the fathers and/or mothers inhabit the countryside and did not finish any school or had primary education only (15.8 and 15.0 respectively). Considering the combined criteria of the place of residence*kind of work, the lowest menarche age is found in the group of girls whose fathers or mothers inhabit a town and perform intellectual work (14.0 and 13.8 respectively). Using the explanatory variables of education*self-estimation of the family's material situation, the lowest age at menarche of 13.2 years is found in the girls whose fathers have higher education and the material situation is identified as very good or rather good. The highest menarche age of 15.0 years is found in the group whose fathers did not finish any school or had primary education only and the material situation was assessed as average. The equation does not demonstrate statistical variability for the mothers (Table 4).

The one-way ANOVA analysis leads to the conclusion that the age at menarche does not demonstrate statistically significant differences accounting for the death of one of the parents, the mother's place of residence, kind of work performed by the father, birth order and family's declared material situation (Tables 2–3).

TABLE 3
AGE AT MENARCHE ACCORDING TO BIRTH ORDER, NUMBER OF CHILDREN IN THE FAMILY HOUSEHOLD* AND SELF-ESTIMATION OF THE FAMILY'S MATERIAL SITUATION (ONE-WAY ANOVA)

Environmental conditions	N	%	X ± SD	Median	S.E.
Birth order:					
1	20	28.2	14.2 ± 1.0	14.0	0.2
2	23	32.4	14.1 ± 1.0	14.0	0.2
3	10	14.1	14.4 ± 0.03	14.3	0.3
4 or more	15	21.1	15.1 ± 1.7	15.0	0.4
NA	3	4.2	15.1 ± 1.0	15.1	0.6
	F=0.57		p=0.687		
Number of children at home					
1	6	8.5	13.8 ± 1.0	13.3	0.4
2	8	11.3	14.1 ± 0.6	14.0	0.2
3	15	21.1	14.1 ± 0.9	14.0	0.2
4	12	16.9	14.0 ± 1.2	14.0	0.4
5	18	25.4	14.2 ± 1.2	14.0	0.3
6 or more	11	15.5	15.3 ± 1.1	15.2	0.3
NA	1	1.4	16.0	16.0	–
	F=2.61		p=0.025		
Self-estimation of the family's material situation:					
very good	3	4.2	12.7 ± 1.5	13.0	0.9
rather good	11	15.5	14.2 ± 0.9	14.0	0.3
average	47	66.2	14.4 ± 1.2	14.5	0.2
rather bad	5	7.0	14.1 ± 0.1	14.0	0.1
very bad	3	4.3	14.4 ± 0.6	14.0	0.3
NA	2	2.8	14.6 ± 0.8	14.6	0.6
	F=1.57		p=0.182		

* including the girls under study, S.E. – Standard Error

TABLE 4
AGE AT MENARCHE ACCORDING TO SOME SOCIODEMOGRAPHIC AND SOCIOECONOMIC CONDITIONS (MULTI-ANOVA).

Analysis factor	Father			Mother		
	N	%	X ± SD	N	%	X ± SD
Place of residence*education:						
Town*none or primary school	2	2.8	13.9 ± 1.3	2	2.8	14.9 ± 0.1
Town*secondary school	9	12.7	14.8 ± 1.1	20	28.2	14.4 ± 1.1
Town*higher	12	16.9	13.5 ± 1.3	11	15.5	13.4 ± 1.2
Town*NA	1	1.4	13.5	–	–	–
Village*none or primary school	3	4.2	15.8 ± 0.5	6	8.5	15.0 ± 1.2
Village*secondary school	7	9.9	14.8 ± 1.1	30	42.3	14.5 ± 0.9
Village*higher	1	1.4	12.0	1	1.4	12.0
Village*NA	4	5.6	15.5 ± 0.6	–	–	–
NA*higher	1	1.4	14.4	–	–	–
NA*NA	31	43.7	14.2 ± 0.8	1	–	13.0
	R^2 = 0.35	F=2.29	p=0.070	R^2 = 0.24	F=0.84	p=0.438
Place of residence*kind of work						
Town*manual worker	3	4.2	14.3 ± 1.1	8	11.3	14.6 ± 0.9
Town*intellectual worker	20	28.2	14.0 ± 1.4	22	31	13.8 ± 1.2
Town*NA	1	1.4	13.5	3	4.2	15.0 ± 1.0
Village*manual worker	4	5.6	15.1 ± 1.5	19	26.8	15.0 ± 0.9
Village*intellectual worker	9	12.7	14.8 ± 1.3	15	21.1	13.9 ± 1.0
Village*NA	2	2.8	15.5 ± 0.7	3	4.2	14.0 ± 1.0
NA*manual worker	5	7.0	14.3 ± 1.1	–	–	–
NA*intellectual worker	15	21.1	14.1 ± 0.9	–	–	–
NA*NA	12	16.9	14.3 ± 0.6	1	1.4	13.0
	R^2 = 0.15	F=0.19	p=0.845	R^2 = 0.24	F=1.14	p=0.326

Discussion

While selecting comparative material on black girls living in native environments, I considered the above--mentioned factors and method differences. It seems that studies from the neighbouring countries should be the most appropriate for comparison of the environment and sociodemographic status. In practice, however, meeting the above assumptions is difficult. Africa is one of the most economically and socially diverse regions of the world. I, too, noted such differences. The differences in the economic development of East African countries affect the morphological characteristics of the region's inhabitants, members of the same tribal and language groups.

Moreover, the comparative material most approximating the conditions and circumstances of my own studies, was collected at different times. Frequently, quite distant times.

Nevertheless, it should be noted that the analysis of collected material reveals a dependence of the age at menarche on the same factors that characterise the studies from developed and highly-developed countries, using the same methods and criteria that I used to analyse my material.

The research conducted by Hautvast[12] nearly half a century ago demonstrated that the average age at menarche in girls was 14.9 ± 0.3. The respondents were girls from a single tribe within this multi-ethnic country, who came from the affluent social class. The average age at menarche in my study is lower. It is hard to state, though, whether this is a result of the secular trend. Analysis of the material indicates that the age at menarche in Tanzanian girls decreases depending on the place of residence and the parents' educational background. This fact may be attributed to the continued though slow growth of the country. Over the last dozen years or so, there have been no major armed conflicts in Tanzania. There have been local tensions due to ethnic grievances, particularly during election campaigns. Still, the economic situation has been improving systematically.

In the studies of Attallah[13], the mean menarche age for »well-off« girls from Khartoum was 13.4 ± 0.1 years and was similar to my own findings, wherein the father or mother live in a town and have higher education (13.5 and 13.4 respectively). In my own results, however, I noted a greater difference between the above mentioned group and the girls whose fathers lived in the country and performed manual work (Table 4).

In the studies conducted almost half a century ago in Nigeria by Tanner[14], the menarche age for the »highly

privileged« group amounted to 14.1 ± 0.2 years In later studies, also conducted in Nigeria[15], the age at menarche in girls from urban areas was 13.7 ± 1.4 years and in rural areas 14.5 ± 1.4. When comparing their studies with the findings of Tanner[14], the authors noted the occurrence of the secular trend. The threshold of menarche age was decreasing by 5 to 6 months per decade and became comparable to the values from Europe. In the studies on a different region of Nigeria[16], the lowering rate of the threshold was somewhat lower (about 4 months per decade) however equally significant. The authors of the above study attributed accelerated menarche to the improvements in the standard of living, especially among the university-educated fathers and mothers, as well as to better health care.

In Somalia, in the studies conducted by Gallo[17], the age at menarche was 14.8 ± 0.1 years. The studies were carried out in the country's capital of Mogadishu on a group that »originated from all the regions of the country«.

Studies conducted in the western part of Kenya (rural area) by Leenstra[2] show that the age at menarche of 15.1 years is higher than that in the girls from Tanzania. The authors of this study, however, do not classify the group for sociodemographic and socioeconomic conditions. It is therefore difficult to relate them unambiguously to my own research.

In the study by Mwakagile[18] on the sexual behaviour among youths from Dar es Salaam, the age at menarche amounted to 14.9 ± 1.5, which was higher than my own findings.

The listing of menarche ages in Africa produced by Padez[19] helps ascertain that my own research findings are characteristic of similar environments in other countries on the same continent. It is difficult to state without a doubt that the rate at which the age at menarche is decreasing is comparable to the studies from highly developed countries. It seems that Africa with its environmental conditioning is governed by its own rules[20–23].

Wolanski[8,9] in his publications suggests that the age at menarche is lower in the Mediterranean basin due to the climate. It increases northwards due to the loss of body heat and southwards due to slower/lower metabolism.

REFERENCES

1. SHARMA K, TALWAR I, SHARMA N, Ann Hum Biol, 15 (1988) 431. — 2. LEENSTRA T, PETERSEN LT, KARIUKI SK, OLOO AJ, KAGER PA,TER KUILE FO, Eur J Clin Nutr, 59 (2005) 41. — 3. APRAIZ AG, Am J Hum Biol, 11 (1999) 779. — 4. HENNEBERG M, LOUW GJ, Am J Phys Anthropol, 96 (1995) 1. — 5. BIELICKI T, WELON Z, Yearbook Phys Anthropol, 25 (1982) 153. — 6. LOESCH DZ, HUGGINS R, ROGUCKA E, HOANG NH, HOPPER JL, Ann Hum Biol, 22 (1995) 479. — 7. GONZALES GF, VILLENA A, UBILLUZ M, Am J Hum Biol, 8 (1996) 457. — 8. WOLANSKI N, Przeglod Antropologiczny, 35(2) (1969) 430. — 9. WOLANSKI N, PYZUK M, Materialy i Prace Antropologiczne, 78 (1970) 153. — 10. GORDON RG JR. (ED.), Ethnologue: Languages of the World, Fifteenth edition Dallas, Tex.: SIL International, 2005, accessed 18.01.2007. Available from: URL: http://www.ethnologue.com (access: 18. 01.2007). — 11. StatSoft, Inc. (2007). STATISTICA (data analysis software system), version 8.0. Available from: URL: http://www.statsoft.com. — 12. HAUTVAST J, Hum Biol, 43 (1971) 421. — 13. ATTALLAH NL, Ann Hum Biol, 10 (1983) 185. — 14. TANNER JM, O'KEEFFE B, Hum Biol, 34 (1962), 187. — 15. ODUNTAN SO, AYENI O, KALE OO, Ann Hum Biol 3 (1976) 269. — 16. UCHE GO, OKODAFOR AE, Ann Hum Biol, 6 (1979) 395. — 17. GALLO PG, Ann Hum Biol, 2 (1975) 197. — 18. MWAKAGILE D, AMARI E, MAKWAYA C, MBWANA J, BIBERFELD G, MHALU F, SANDASTRÖM E, Sex Transm Infect, 77 (2001) 255. — 19. PADEZ C, Ann Hum Biol, 30 (2003) 487. — 20. PAWLOSKI LR, Am J Phys Anthropol, 117 (2002) 364. — 21. OTOR SC, PANDEY A, Soc Biol. 45 (1998) 246. — 22. PASQUET P, BIYONG AM, RIKONG-ADIE H, BEFIDI-MENGUE R, GARBA MT, FROMENT A, Ann Hum Biol, 26 (1999) 89. — 23. CAMERON N, KGAMPHE JS, LEVIN Z, Am J Hum Biol, 3 (1991) 252.

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DOB MENARHE KOD ŠKOLSKIH DJEVOJAKA IZ TANZANIJE S OBZIROM NA SOCIOEKONOMSKE I SOCIODEMOGRAFSKE UVJETE

SAŽETAK

Cilj ove studije je utvrditi dob menarhe djevojaka iz Tanzanije prema podacima o društvenom i materijalnom statusu njihove obitelji, sakupljenima 2005. godine. U svrhu analize izdvojena je 71 djevojka (8 iz Dar es Salaama i 63 iz Mafinge), od ukupno 98 djevojaka koje su sudjelovale u antropološkoj studiji. Kalendarska dob djevojaka koje su izdvojene iznosila je od 12,9 do 22,7 godina. (X=15,9±1,9) Prosječna dob menarhe, utvrđena metodom prisjećanja, iznosila je 14,3±1,1 godina. Djevojke čiji barem jedan roditelj (majka ili otac) živi u gradu menarhu su dobile ranije od prosjeka (sa 14,1, odnosno 14 godina). Ako niti jedan od roditelja nije završio svoje školovanje ili ima samo osnovnoškolsko obrazovanje, dob menarhe njihove kćeri bila je u prosjeku 15 godina. Djevojke čiji je otac završio srednju školu dobile su prvu menstruaciju sa 14,8 godina, a kćeri majki koje su završile srednju školu sa 14,5 godina. Najniža dob menarhe je utvrđe-

na u skupini djevojaka čiji su roditelji stekli visokoškolsko obrazovanje (13,4 godina u slučaju oca i 13,3 godina u slučaju majke), dok je viša dob menarhe bila tipična za skupinu djevojaka iz obitelji sa više od šestero djece u domaćinstvu. Dvosmjernim ANOVA testom utvrđeno je da najnižu dob menarhe imaju djevojke čije obitelji žive u gradu i čiji roditelji imaju više obrazovanje, dok najvišu dob imaju djevojke iz obitelji koje žive na selu i čiji roditelji nisu završili školovanje ili imaju završenu samo osnovnu školu. Prema dvosmjernom ANOVA testu (obrazovanje*samoprocjena obiteljske materijalne situacije), najniža dob menarhe je utvrđena u skupini djevojaka čiji očevi imaju više obrazovanje i koji su svoju materijalnu situaciju procijenili dobrom ili vrlo dobrom. Studije ovakve vrste reprezentativne su i za istraživanja u drugim krajevima Afrike. Dobivene rezultate moguće je usporediti sa rezultatima sličnih istraživanja u visokorazvijenim zemljama, no još je uvijek teško procijeniti jesu li razlozi za nižu dob menarhe jednaki. Čini se da u Africi, zbog njenih okolišnih uvjeta, vrijede posebna pravila.